

I CLAIM:

5 1. A friction material comprising a plurality of connected sections and at least one of oil localization slots, each connected section being defined by adjacent oil localization slots in the friction material,

at least one of the oil localization slots having opposing sides that defines a reservoir which retains fluid in the oil localization slot when the friction material is formed into a circular shape.

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2. The friction material of claim 1, wherein at least one oil localization slot has a retention side and a wiping side for retaining the fluid in the friction material.

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3. The friction material of claim 1, at least one oil localization slot has a substantially tear drop shape.

4. The friction material of claim 1, wherein at least one oil localization slot has a substantially dovetail shape.

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5. The friction material of claim 1, wherein a desired number of slots is determined by dividing 360 by the amount of space between adjacent slots to give a desired number of oil localization slots.

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6. The friction material of claim 1, wherein at least one of the oil localization slots defines opposing and converging sides when the friction material is formed into a circular shape.

7. The friction material of claim 1, wherein at least one of the oil localization slots defines a first radially extending side which extends at a first angle from a first edge of the friction material and further defines a second, opposing radially extending side which extends at a second angle from the first edge of the friction material.

8. The friction material of claim 2, wherein retention side and the wiping side of the oil localization slot define a groove, which groove is formed when the friction material is formed into the circular shape, the groove having a width that varies along the length of the sides of the groove and is determined by an offset distance D1 from opposing sides of the oil localization slot.

9. The friction material of claim 8, wherein the distance D1 is measured from the opposing sides of the oil localization slot at a midpoint of each side.

10. The friction material of claim 8, wherein the distance D1 is measured from the opposing sides of the oil localization slot at an endpoint of each side.

11. The friction material of claim 8, wherein the retaining side and the wiping side of the oil localization slot each terminate at opposing ends, the ends defining an opening having a width that is defined by a second distance D2, wherein the second distance D2 is shorter than the first distance D1.

12. The friction material of claim 1, wherein the number of oil localization slot is determined by a formula comprising: 360 /amount of

desired space between slots to give a desired number of oil localization slots in the friction material.

13. The friction material of claim 1, wherein at least one oil
5 localization slot defines a closed end groove on the friction material.

14. An end use product for use with cooling fluid comprising:
a friction member having an outer surface;

10 a friction material adhered to the outer surface; the friction material comprising having a plurality of connected sections and a plurality of oil localization slots, each connected section being defined by adjacent oil localization slots in the friction material,

15 at least one oil localization slot having opposing sides that define a reservoir which retains fluid in the oil localization slot when the friction material is formed into a desired shape.

16. The end use product of claim 14, wherein at least one oil localization slot has a retention side and a wiping side for retaining the fluid in the friction material.

20 25 17. The end use product of claim 15, wherein at least one oil localization slot has a substantially tear drop shape.

18. The end use product of claim 14, wherein the friction material has about 12 to about 16 oil localization slots.

19. The end use product of claim 14, wherein at least one of the oil localization slots defines opposing and converging sides when the friction material is formed into a desired shape.

5 20. The end use product of claim 14, wherein at least one of the oil localization slots defines a first radially extending side which extends at a first angle from a first edge of the friction material and further defines a second, opposing radially extending side which extends at a second angle from the first edge of the friction material.

10 21. The end use product of claim 14, wherein retention side and the wiping side of the oil localization slot define a groove, which groove is formed when the friction material is formed into the circular shape, the groove having a width that varies along the length of the sides of the groove and is determined by an offset distance D1 from opposing sides of the oil localization slot.

15 22. The end use product of claim 21, wherein the distance D1 is measured from the opposing sides of the oil localization slot at a midpoint of each side.

20 23. The of claim 21, wherein the distance D1 is measured from the opposing sides of the oil localization slot at an endpoint of each side.

25 24. The end use product of claim 23, wherein the retaining side and the wiping side of the oil localization slot each terminate at opposing ends, the ends defining an opening having a width that is defined by a second distance D2, wherein the second distance D2 is shorter than the first distance D1.

25. The end use product of claim 14, wherein the number of oil localization slot is determined by a formula comprising: 360 /amount of desired space between slots to give a desired number of oil localization slots in the friction material.

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26. The end use product of claim 14, wherein at least one oil localization slot defines a closed end groove on the friction material.

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27. A method for making an end use product having a friction member, including the steps of:

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positioning on the friction member a supply of friction material, the friction material comprising a plurality of connected sections and a plurality of oil localization slots, each connected section being defined by adjacent oil localization slots in the friction material; and

applying a predetermined length of the oil localization slotted friction material to at least one side of the friction member.

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28. The method of claim 27, in which the predetermined length of friction material is formed into a circular shape before being applied to at least one side of the friction member.

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29. The method of claim 27, in which a supply of adhesive material is applied to at least one of: a portion of one side of the friction member, or to a portion of the friction material, before the oil localization slotted friction material is applied to the side of the friction member.

30. The method of claim 27, in which the friction member with the oil localization slotted friction material applied thereto is heated for a

suitable time at a suitable pressure to induce bonding of the slotted friction material to the friction member.

31. The end use product of claim14, comprising at least one of a
5 power transmission-energy absorption assembly including clutches, brakes,
automatic transmissions, limited slip differentials, hoists, synchronizers,
circular bands, discs, clutches, and the like end use products.

32, The method of claim27, wherein the end use product
10 comprises at least one of a power transmission-energy absorption assembly
including clutches, brakes, automatic transmissions, limited slip
differentials, hoists, synchronizers, circular bands, discs, clutches, and the
like end use products.